



# UNITED STATES PATENT AND TRADEMARK OFFICE

*len*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,115	07/27/2006	Derk Reefman	NL040074US1	4361
65913	7590	08/30/2007		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER NGUYEN, LINH V	
			ART UNIT 2819	PAPER NUMBER
			NOTIFICATION DATE 08/30/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

## Office Action Summary

Application No.

10/588,115

Applicant(s)

REEFMAN ET AL.

Examiner

Linh V. Nguyen

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 8 is/are rejected.
- 7) ☒ Claim(s) 3-8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7/27/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This application is in response to communication filed on 7/27/06. Claims 1 – 8 are pending on this application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaneaki et al. U.S. patent No. 5,068,661.

Regarding claim Fig. 3 of Kaneaki et al. discloses a DA-converter system (col. 4 lines 36 – 38) comprising: a digital sigma-delta modulator (80) for receiving a multi-bit digital input signal (Digital input, Col. 2 lines 2 - 6), for providing a reduced word-length digital output signal (Q1) and for noise shaping (Col. 2 lines 17 – 18) the quantization noise generated thereby to a frequency band outside the frequency band of the digital input signal (Col. 2 lines 30 – 36), said DA-converter system (Fig. 3) further comprising, a digital to analog converting (30) combiner (12) with first (Q1) and second (Q2) digital inputs and an analog output (Analog Output) and with the first digital input (Q1) connected to the output of the digital sigma-delta modulator (80), characterized by said sigma-delta modulator (80) providing a reduced word-length multi-bit digital output signal (Col. 2 lines 2 – 6) and by a noise reduction arrangement (4) for reducing the out-

Art Unit: 2819

of-band (Col. 2 lines 30 –36) quantization noise generated by the sigma-delta modulator (80), said noise reduction arrangement (4) comprising means (4) connected to the sigma-delta modulator (80) for isolating (Subtracting of B1) the quantization noise (B1) generated thereby, a second noise shaper (90) with substantially frequency independent signal transfer function receiving the isolated quantization noise (output of 4) and reducing the word-length (Q2 is the reduced word-length for output of 4; see Col. 2 lines 2 – 6; ) of this quantization noise (output of 4), and means (11) to supply the reduced word-length quantization noise (output of 90) from the second noise shaper (90) to the second digital input (second digital input of 12) of the digital to analog converting (30) combiner (12) for generating an analog output signal (Analog output) with reduced out-of-band quantization noise (Col. 2 lines 30 – 36) at the combiner output (output of 12).

Regarding claim 8, the claim incorporated similar subject matter as of claim 1 above, and rejected along the same rationale.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneaki et al. as applied to claim 1 above,

Kaneaki et al. as applied to claim 1 above discloses combiner (12) for combining first (Q1) and second (Q2) digital inputs and a DA converter (30) for converting the combiner output (output of 12) to an analog output (Analog output) instead of first and second DA converter for converting first and second digital inputs to first and second analog outputs, respectively and a combiner for combined the first and second analog outputs and outputs the summed of the first and second analog outputs as claimed. However; combiner (12) and DA converter (30) shows by Kaneaki et al. with respect to combiner and first and second DA converters of claimed invention are is an equivalent structures know in the art because these two are provided the same analog output for the first and second digital signals of the first and second noise shaper. Therefore, it would have been obvious to one having ordinary skill the in the art at the time the invention was made to simplify the structures of claimed invention by the arrangement of Kaneaki because the arrangement of Kaneaki provide one less DA converter while produced the same output; thus improving chip area and cost of addition DA converter.

***Allowable Subject Matter***

6. Claims 3 – 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art does not teach the signal transfer function of the second noise shaper is approximately equal to unity and that the noise reduction arrangement comprises a digital amplifier for amplifying the isolated quantization noise with a predetermined factor prior to its application to the second

Art Unit: 2819

noise shaper and that the digital to analog converting combiner comprises an attenuator for attenuating the reduced word-length quantization noise derived from the second noise shaper with substantially the same predetermined factor.

**Contact Information**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (571) 272-1810. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Rexford Barnie can be reached at (571) 272-7492. The fax phone numbers for the organization where this application or proceeding is assigned are (571-273-8300) for regular communications and (571-273-8300) for After Final communications.

8/18/07

Linh Van Nguyen

Art Unit 2819

A handwritten signature in black ink, appearing to read 'Linh Van Nguyen', is written over the typed name.